

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1- 14 (canceled).

Claim 15 (new): A system for desalinating seawater to yield desalinated water and a concentrate, the system comprising:

a first sea-going vessel comprising a hull and being positioned on the surface of a body of seawater;

a membrane-based water desalination system installed on the first sea-going vessel, the membrane-based water desalination system capable of removing salt from seawater;

a water intake system installed on the first sea-going vessel and comprising an apparatus for taking up seawater from the body of seawater, the apparatus comprising at least one water intake positioned in the body of seawater at a first depth;

a mixing system for mixing the concentrate with seawater to yield a diluted concentrate, the mixing system being installed on the first sea-going vessel in communication with the water desalination system and comprising a space in which concentrate can be mixed with seawater to form the diluted concentrate, an inlet for introducing concentrate into the space, an inlet for introducing seawater into the space, and an outlet for discharging the diluted concentrate from the space; and

a concentrate discharge system for discharging the diluted concentrate from the first sea-going vessel, the concentrate discharge system being installed on the first sea-going vessel and comprising at least one discharge port being positioned at a site not at the first depth.

Claim 16 (new): The system of claim 15, wherein the first sea-going vessel has a draught of more than 10 meters and the apparatus for taking up seawater from the body of seawater comprises a sea chest formed in the lower portion of the hull of the first sea-going vessel.

Claim 17 (new): The system of claim 15, wherein the apparatus for taking up seawater from the body of seawater comprises a water intake member extendible from the hull into the body of seawater, wherein the water intake is on the distal end of the water intake member and the first depth is greater than ten meters.

Claim 18 (new): The system of claim 15, wherein the at least one discharge port is positioned at a site deeper than the first depth.

Claim 19 (new): The system of claim 15, wherein the at least one discharge port is positioned at a site more shallow than the first depth.

Claim 20 (new): The system of claim 15, wherein the at least one discharge port is positioned in or below a thermocline and the first depth is above the thermocline.

Claim 21 (new): The system of claim 15, wherein the at least one discharge port is positioned above a thermocline and the first depth is in or below the thermocline.

Claim 22 (new): The system of claim 15, wherein the water intake is movable such that the water intake system can intake water from various depths to reduce the intake of plankton.

Claim 23 (new): The system of claim 15, wherein the first sea-going vessel comprises a sea chest formed in the lower portion of the hull of the first sea-going vessel and a water intake member extendible from the hull into the body of seawater, and the water intake system can utilize either the sea chest or the water intake member to intake seawater.

Claim 24 (new): The system of claim 15, wherein the first sea-going vessel comprises instrumentation and sensors for detecting the presence of and depth of thermoclines in the body of seawater.

Claim 25 (new): The system of claim 15, wherein the first sea-going vessel comprises instrumentation and sensors for detecting the presence of and depth of plankton in the body of seawater.

Claim 26 (new): The system of claim 15, wherein the mixing system is integrated with the concentrate discharge system, and comprises a concentrate discharge member extending from the hull into the body of seawater, the concentrate discharge member comprising (a) a conduit through which concentrate can flow from the water desalination system to the body of seawater

WPB:249230:1

and (b) an aspirator through which seawater from the body of seawater can be drawn into the concentrate discharge member by the Venturi effect to mix with concentrate in the conduit.

Claim 27 (new): A system for desalinating seawater to yield desalinated water and a concentrate, the system comprising:

a first sea-going vessel being positioned on the surface of a body of seawater;

a water desalination system installed on the first sea-going vessel and capable of removing salt from seawater to yield desalinated water and a concentrate;

a water intake system installed on the first sea-going vessel in fluid communication with the water desalination system and comprising an apparatus for taking up seawater from the body of seawater, the apparatus positioned in the body of seawater at a first depth relative to the surface of the body of seawater; and

a concentrate discharge system for discharging the concentrate from the first sea-going vessel, the concentrate discharge system being installed on the first sea-going vessel in fluid communication with the water desalination system and comprising at least one discharge member positionable in the body of seawater and comprising (a) a conduit through which concentrate can flow from the water desalination system to the body of seawater and (b) an aspirator through which seawater from the body of seawater can be drawn into the discharge member to mix with concentrate in the conduit.

Claim 28 (new): A method of desalinating seawater aboard a sea-going vessel positioned on the surface of a body of seawater, the method comprising the steps of:

intaking seawater from the body of seawater at a first depth into the vessel;

removing salt from the seawater taken into the vessel to yield desalinated water and a concentrate;

discharging the concentrate into the body of seawater at a site not at the first depth.

Claim 29 (new): The method of claim 28, further comprising the step of diluting the concentrate with seawater prior to the step of discharging the concentrate into the body of seawater.

Claim 30 (new): The method of claim 29, wherein the step of diluting the concentrate with seawater occurs aboard the vessel.

Claim 31 (new): The method of claim 28, wherein the body of seawater comprises a layer of phytoplankton and the first depth is below the layer of phytoplankton.

Claim 32 (new): The method of claim 28, wherein the concentrate is discharged at a site deeper than the first depth.

Claim 33 (new): The method of claim 28, wherein the concentrate is discharged at a site more shallow than the first depth.

Claim 34 (new): The method of claim 28, wherein the concentrate is discharged at a site in or below a thermocline and the first depth is above the thermocline.

Claim 35 (new): The method of claim 28, wherein the concentrate is discharged at a site above a thermocline and the first depth is in or below the thermocline.

Claim 36 (new): A method of mixing seawater with a concentrate produced by a vessel-based desalination system positioned on the surface of a body of seawater, the method comprising the steps of:

introducing the concentrate into a concentrate discharge system installed on a first sea-going vessel and comprising at least one discharge member positionable in the body of seawater and comprising (a) a conduit through which concentrate can flow from the water desalination system to the body of seawater and (b) an aspirator through which seawater from the body of seawater can be drawn into the discharge member to mix with concentrate in the conduit; and

introducing into the conduit and mixing therein the concentrate and seawater from the body of seawater.